

Fig. 1: Identification of differentially expressed genes in a fluorescence differential display screen

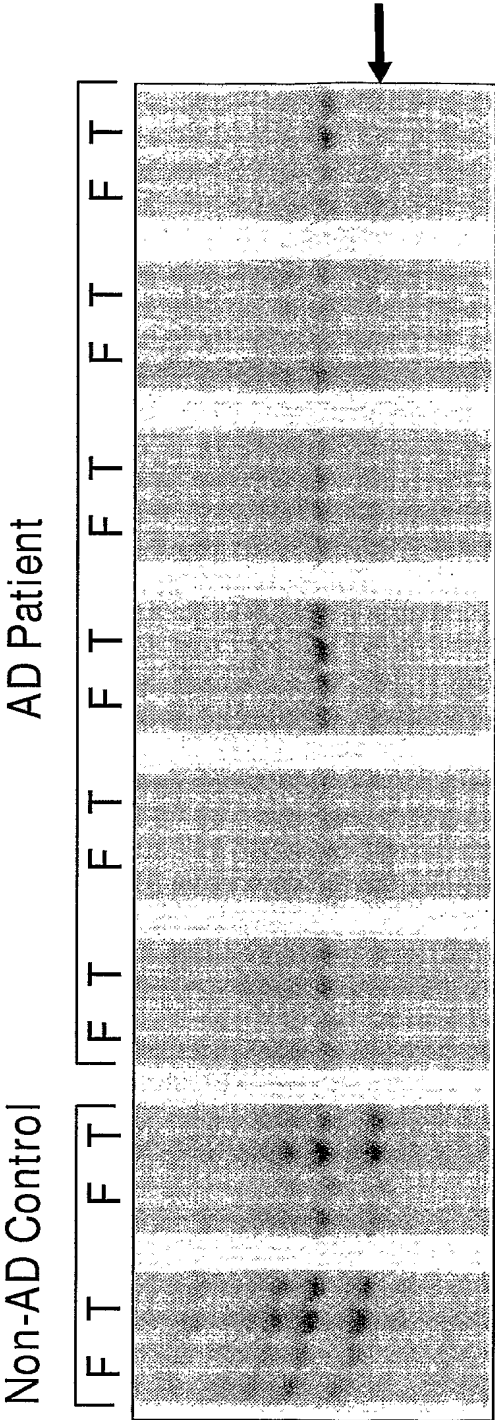


Fig. 2: Verification of differential expression  
of human MAL2 by quantitative RT-PCR

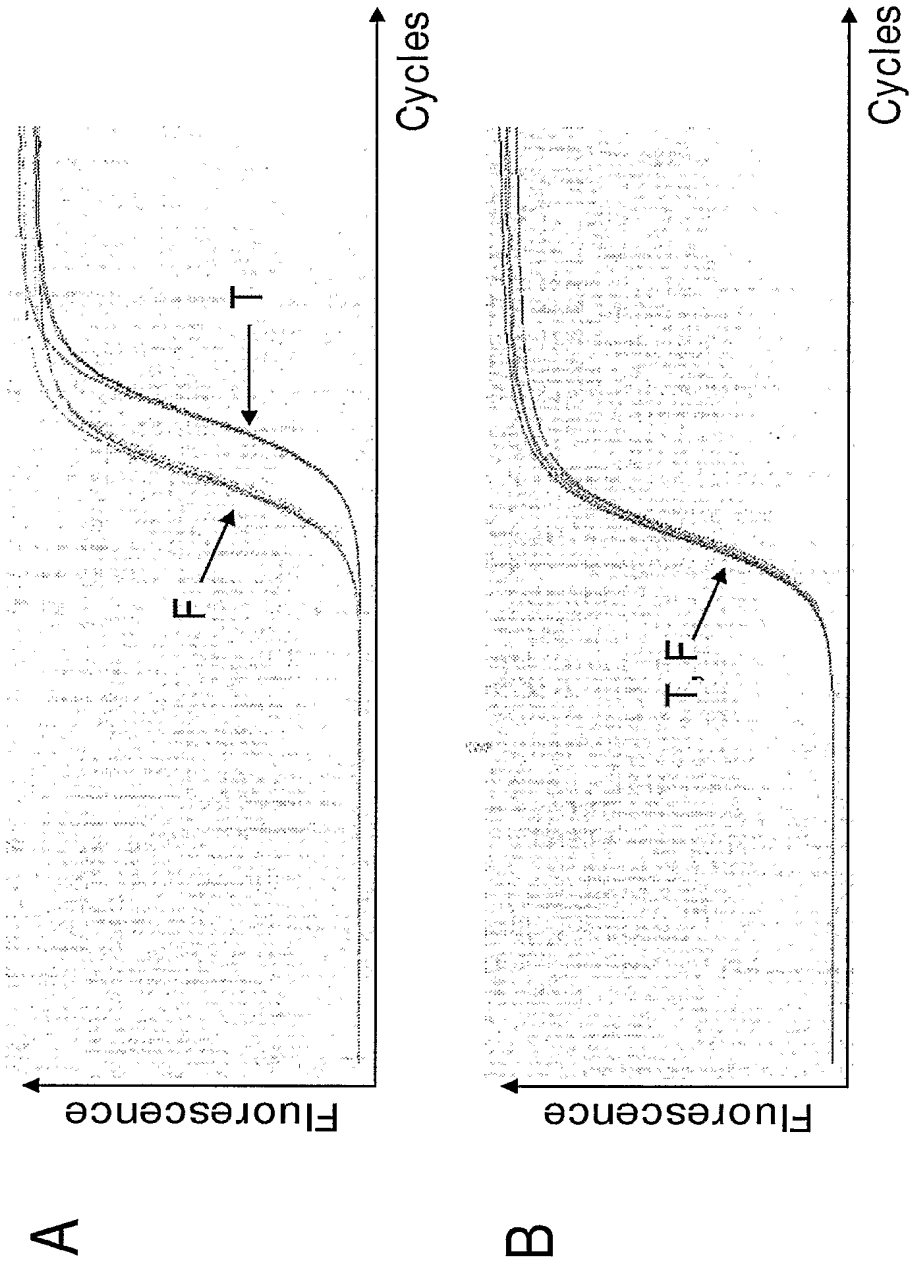


Fig. 3: Verification of differential expression  
of human MAL2 by quantitative RT-PCR

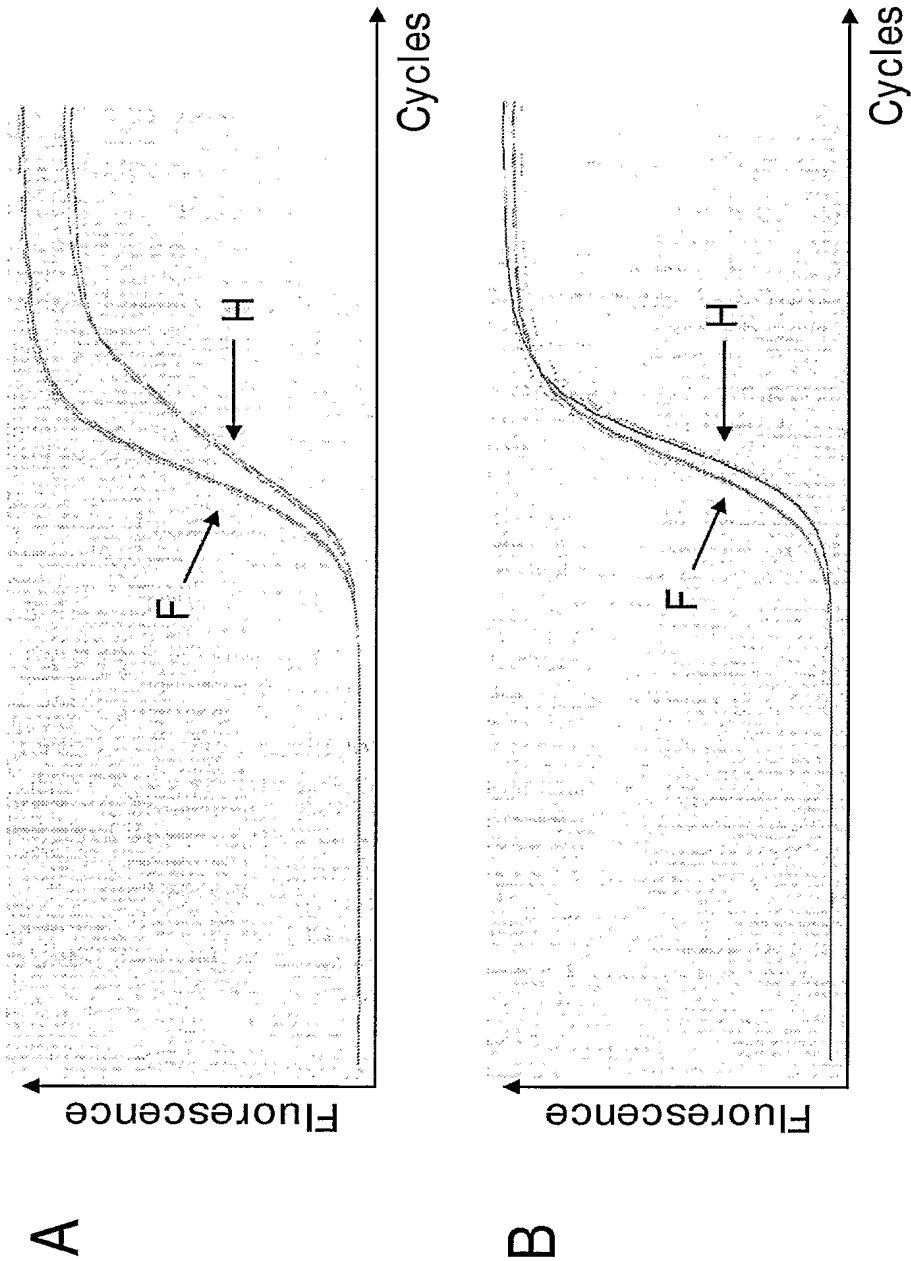
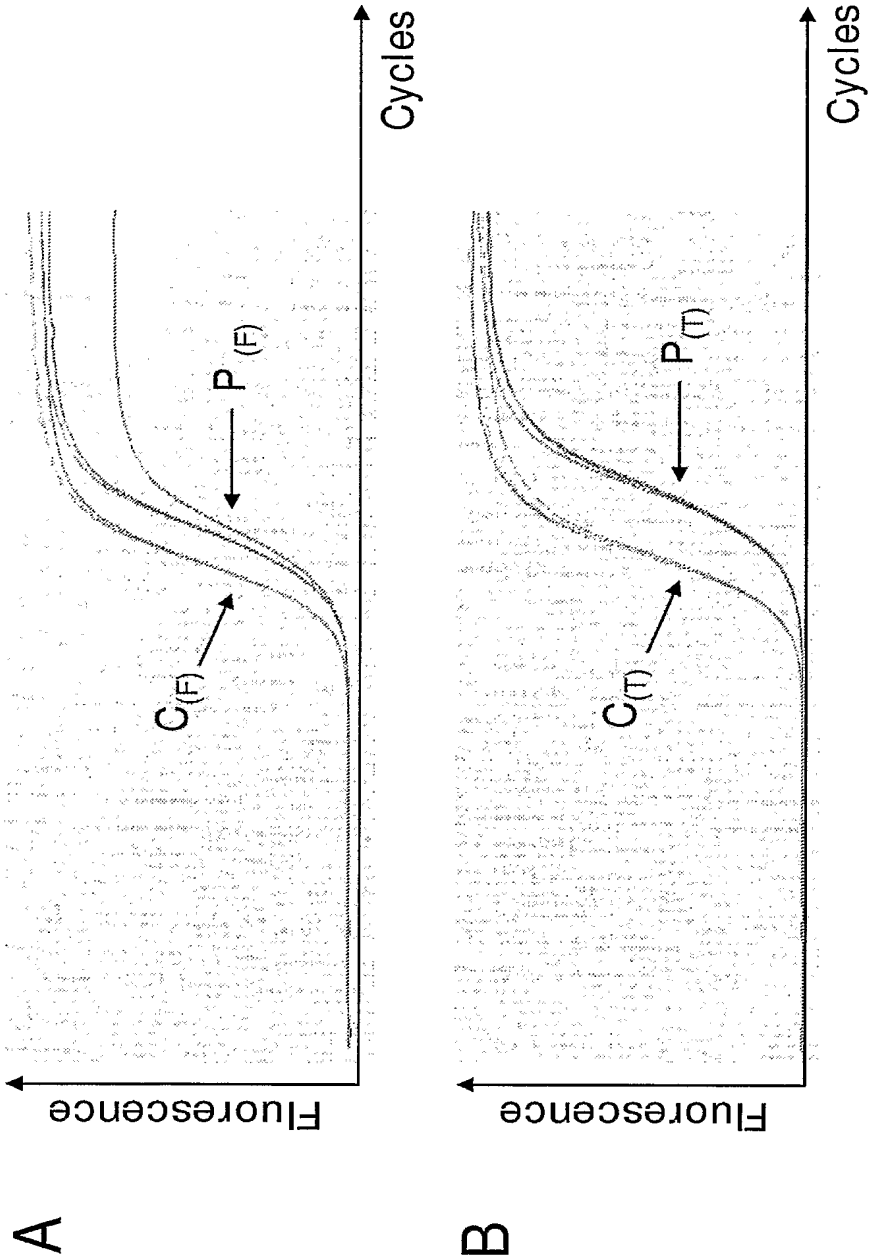


Fig. 4: Verification of differential expression of MAL2 by quantitative PCR



-5/ 16-

Fig. 5 : SEQ ID NO: 1,  
amino acid sequence of  
human MAL2 protein

Length: 176 aa

```
1 MSAGGASVPP PPNPAVSFPP PRVTLPAGPD ILRTYSGAFV CLEILFGGLV
51 WILVASSNVP LPLLQGWVMF VSVTAFFFSL LFLGMFLSGM VAQIDANWNF
101 LDFAYHFTVF VFYFGAFLLE AAATSLHDLH CNTTITGQPL LSDNQYNINV
151 AASIFAFMTT ACYGCSLGLA LRRWRP
```

-6/ 16-

Fig. 6: SEQ ID NO: 2,  
nucleotide sequence of  
human MAL2 cDNA

Length: 2808 bp

```

1  GGCGGCGGCG GCAGGAGCCC GGGAGGCGGA GGCGGGAGGC GGCGGCGGCG
51  CGCGGAGACG CAGCAGCGGC AGCGGCAGCA TGTCGGCCGG CGGAGCGTCA
101 GTCCCGCCGC CCCCGAACCC CGCCGTGTCC TTCCCGCCGC CCCGGGTCAC
151 CCTGCCCGCC GGCCCCGACA TCCTGCGGAC CTA CTCTCGGC GCCTTCGTCT
201 GCCTGGAGAT TCTGTTCGGG GGTCTTGTCT GGATTTTGGT TGCCTCCTCC
251 AATGTTCCCTC TACCTCTACT ACAAGGATGG GTCATGTTTG TGTCCGTGAC
301 AGCGTTTTTC TTTTCGCTCC TCTTTCTGGG CATGTTCCCTC TCTGGCATGG
351 TGGCTCAAAT TGATGCTAAC TGGAACTTCC TGGATTTTGC CTACCATTTT
401 ACAGTATTTG TCTTCTATTT TGGAGCCTTT TTATTGGAAG CAGCAGCCAC
451 ATCCCTGCAT GATTTGCATT GCAATACAAC CATAACCGGG CAGCCACTCC
501 TGAGTGATAA CCAGTATAAC ATAAACGTAG CAGCCTCAAT TTTTGCCTTT
551 ATGACGACAG CTGTGTATGG TTGCAGTTTG GGTCTGGCTT TACGAAGATG
601 GCGACCGTAA CACTCCTTAG AAAGTGGCAG TCGTATGTTA GTTTCACCTG
651 TCTACTTTAT ATGTCTGATC AATTGGGATA CCATTTTGTC CAGATGCAAA
701 AACATTCCAA AAGTAATGTG TTTAGTAGAG AGAGACTCTA AGCTCAAGTT
751 CTGGTTTATT TCATGGATGG AATGTAAATT TTATTATGAT ATTAAAGAAA
801 TGGCCTTTTA TTTTACATCT CTCCCCTTTT FCCCTTTCCC CCTTTATTTT
851 CCTCCTTTTC TTTCTGAAAG TTTCTTTTTA TGTCCATAAA ATACAAATAT
901 ATTGTTTATA AAAAATTAGT ATCCCTTTTG TTTGGTTGCT GAGTCACCTG
951 AACCTTAATT TTAATTGGTA ATTACAGCCC CTAAAAAAA CACATTTCAA
1001 ATAGGCTTCC CACTAACTC TATATTTTAG TGTAACCAG GAATTGGCAC
1051 ACTTTTTTTA GAATGGGCCA GATGGTAAAT ATTTATGCTT CACGGTCCAT
1101 ACAGTCTCTG TCACAACTAT TCAGTTCTGC TAGTATAGCG TGAAAGCAGC
1151 TATACACAAT ACAGAAATGA ATGAGTGTGG TTATGTTCTA ATAAAACTTA
1201 TTTATAAAAA CAAGGGGAGG CTGGGTTTAG CCTGTGGGCC ATAGTTTGTC
1251 AACCCTGGT GTAAAACCTT AGTTATATAT GATCTGCATT TTCTTGAAC
1301 GATCATTGAA AACTTATAAA CCTAACAGAA AAGCCACATA ATATTTAGTG
1351 TCATTATGCA ATAATCACA TGCCCTTGTG TTAATAGTCA AATACTTACC
1401 TTTGGAGAAT ACTTACCTTT GGAGGAATGT ATAAAATTTT TCAGGCAGAG
1451 TCCTGGATAT AGGAAAAAGT AATTTATGAA GTAAACTTCA GTTGCTTAAT
1501 CAACTAATG ATAGTCTAAC AACTGAGCAA GATCCTCATC TGAGAGTGCT
1551 TAAAATGGGA TCCCCAGAGA CCATTAACCA ATACTGGAAC TGGTATCTAG
1601 CTACTGATGT CTTACTTTGA GTTTATTTAT GCTTCAGAAT ACAGTTGTTT
1651 GCCCTGTGCA TGAATATACC CATATTTGTG TGTGGATATG TGAAGCTTTT
1701 CCAAATAGAG CTCTCAGAAG AATTAAGTTT TTACTTCTAA TTATTTTGCA
1751 TTACTTTGAG TTAATTTTGA ATAGAGTATT AAATATAAAG TTGTAGATTC
1801 TTATGTGTTT TTGTATTAGC CCAGACATCT GTAATGTTTT TGCCTGGTG
1851 ACAGACAAAA TCTGTTTTAA AATCATATCC AGCACAAAA CTATTTCTGG
1901 CTGAATAGCA CAGAAAAGTA TTTTAACCTA CCTGTAGAGA TCCTCGTCAT
1951 GGAAAGGTGC CAAACTGTTT TGAATGGAAG GACAAGTAAG AGTGAGGCCA
2001 CAGTTCCAC CACACGAGG CTTTTGTATT GTTCTACTTT TTCAGCCCTT
2051 TACTTTCTGG CTGAAGCATC CCCTTGGAGT GCCATGTATA AGTTGGCTTA
2101 TTAGAGTTCA TGGAACATAG AACAACCATG AATGAGTGGC ATGATCCGTG
2151 CTTAATGATC AAGTGTTACT TATCTAATAA TCCTCTAGAA AGAACCCTGT
2201 TAGATCTTGG TTTGTGATAA AAATATAAAG ACAGAAGACA TGAGGAAAAA

```

-7/ 16-

```
2251 CAAAAGGTTT GAGGAAATCA GGCATATGAC TTTATACTTA ACATCAGATC
2301 TTTTCTATAA TATCCTACTA CTTTGGTTTT CCTAGCTCCA TACCACACAC
2351 CTAAACCTGT ATTATGAATT ACATATTACA AAGTCATAAA TGTGCCATAT
2401 GGATATACAG TACATTCTAG TTGGAATCGT TTA CTCTGCT AGAATTTAGG
2451 TGTGAGATTT TTTGTTTCCC AGGTATAGCA GGCTTATGTT TGGTGGCATT
2501 AAATTGGTTT CTTTAAAATG CTTTGGTGGC ACTTTTGTAA ACAGATTGCT
2551 TCTAGATTGT TACAAACCAA GCCTAAGACA CATCTGTGAA TACTTAGATT
2601 TGTAGCTTAA TCACATTCTA GACTTGTGAG TTGAATGACA AAGCAGTTGA
2651 ACAAAAATTA TGGCATTTAA GAATTTAACA TGTCTTAGCT GTAAAAATGA
2701 GAAAGTGTTG GTTGGTTTTA AAATCTGGTA ACTCCATGAT GAAAAGAAAT
2751 TTATTTTATA CGTGTTATGT CTCTAATAAA GTATTCATTT GATAAAAAAA
2801 AAAAAAAA
```

- 8 / 16 -

Fig. 7: SEQ ID NO: 3

Length: 270 bp

```
1  TGGTGGCACT TTTGTAAACA GATTGCTTCT AGATTGTTAC AAACCAAGCC
51 TAAGACACAT CTGTGAATAC TTAGATTGTG AGCTTAATCA CATTCTAGAC
101 TTGTGAGTTG AATGACAAAG CAGTTGAACA AAAATTATGG CATTTAAGAA
151 TTTAACATGT CTTAGCTGTA AAAATGAGAA AGTGTTGGTT GGTTTTAAAA
201 TCTGGTAACT CCATGATGGA AAGAAATTTA TTTTATACGT GTTATGTCTC
251 TAATAAAGTA TTCATTTGAT
```



-9/ 16-

Fig. 8: SEQ ID NO: 4,  
nucleotide sequence of  
human MAL2 coding sequence

Length: 531 bp

```
1  ATGTCGGCCG GCGGAGCGTC AGTCCCGCCG CCCCCGAACC CCGCCGTGTC
51  CTTCCCGCCG CCCCAGGTCA CCCTGCCCGC CGGCCCCGAC ATCCTGCGGA
101 CCTACTCGGG CGCCTTCGTC TGCCTGGAGA TTCTGTTCGG GGGTCTTGTC
151 TGGATTTTGG TTGCCTCCTC CAATGTTTCT CTACCTCTAC TACAAGGATG
201 GGTCATGTTT GTGTCCGTGA CAGCGTTTTT CTTTTCGCTC CTCTTCTGG
251 GCATGTTTCT CTCTGGCATG GTGGCTCAAA TTGATGCTAA CTGGAACCTC
301 CTGGATTTTG CCTACCATTT TACAGTATTT GTCTTCTATT TTGGAGCCTT
351 TTTATTGGAA GCAGCAGCCA CATCCCTGCA TGATTTGCAT TGCAATACAA
401 CCATAACCGG GCAGCCACTC CTGAGTGATA ACCAGTATAA CATAAACGTA
451 GCAGCCTCAA TTTTTCCTT TATGACGACA GCTTGTTATG GTTGCAGTTT
501 GGGTCTGGCT TTACGAAGAT GCGACCGTA A
```

-10/16-

Fig. 9: Alignment of SEQ ID NO: 2  
with SEQ ID NO: 3

Length: 270 bp

```
      .       .       .       .
1  TGGTGGCACTTTTGTAACAGATTGCTTCTAGATTGTTACAAACCAAGCC 50
   |||
2524 TGGTGGCACTTTTGTAACAGATTGCTTCTAGATTGTTACAAACCAAGCC 2573

      .       .       .       .
51  TAAGACACATCTGTGAATACTTAGATTTGTAGCTTAATCACATTCTAGAC 100
   |||
2574 TAAGACACATCTGTGAATACTTAGATTTGTAGCTTAATCACATTCTAGAC 2623

      .       .       .       .
101 TTGTGAGTTGAATGACAAAGCAGTTGAACAAAAATTATGGCATTTAAGAA 150
   |||
2624 TTGTGAGTTGAATGACAAAGCAGTTGAACAAAAATTATGGCATTTAAGAA 2673

      .       .       .       .
151 TTTAACATGTCTTAGCTGTAAAAATGAGAAAGTGTGGTTGGTTTTAAAA 200
   |||
2674 TTTAACATGTCTTAGCTGTAAAAATGAGAAAGTGTGGTTGGTTTTAAAA 2723

      .       .       .       .
201 TCTGGTAACTCCATGATGAAAGAAATTTATTTTATACGTGTTATGTCTC 250
   |||
2724 TCTGGTAACTCCATGATGAAAGAAATTTATTTTATACGTGTTATGTCTC 2773

      .
251 TAATAAAGTATTCATTTGAT 270
   |||
2774 TAATAAAGTATTCATTTGAT 2793
```

Fig. 10:

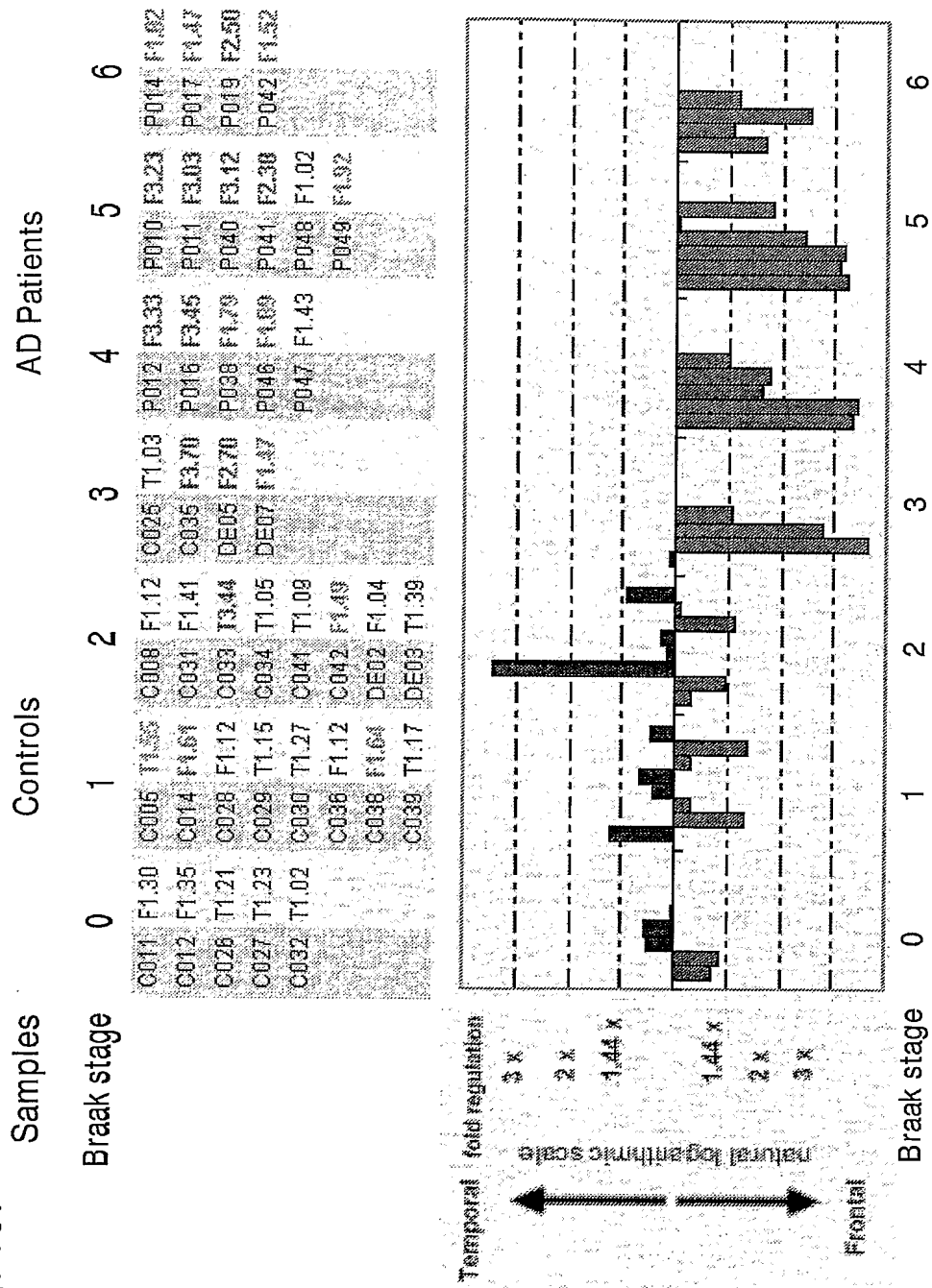
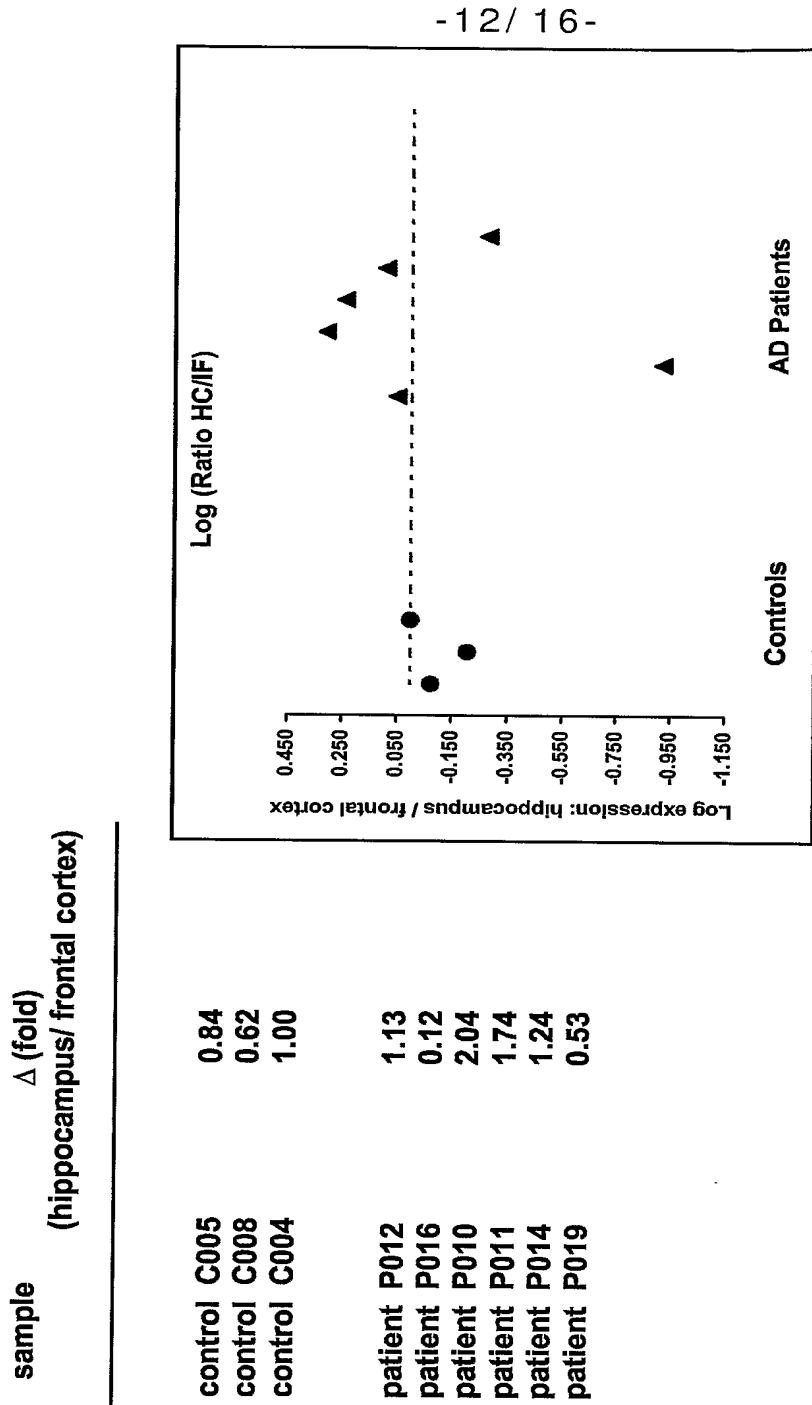


Fig. 11:



**Fig.12: Analysis of absolute mRNA expression of MAL2**

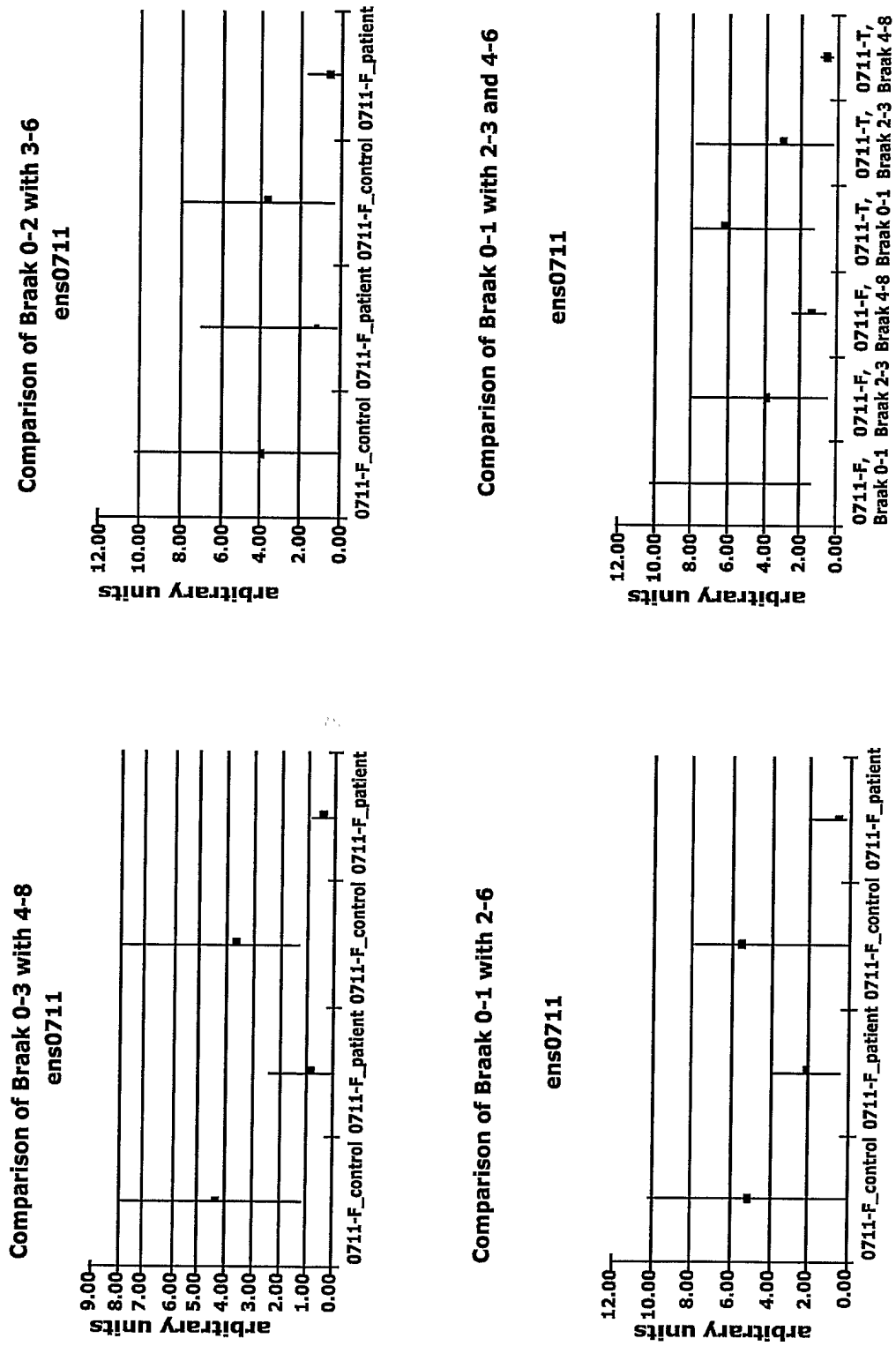


Fig. 13: Western Blot of H4APsw cell protein extracts labeled with anti-MAL2-myc antibodies

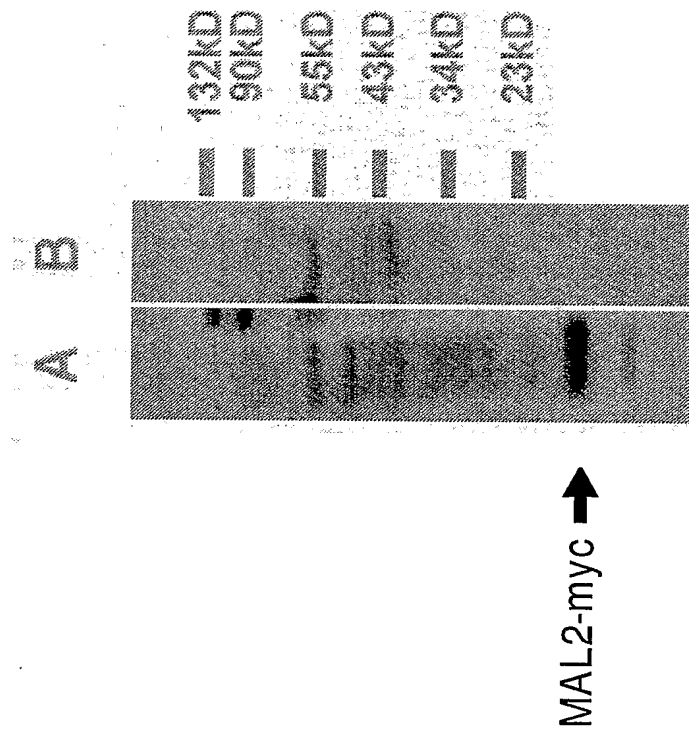


Fig. 14: Immunofluorescence analysis of  
MAL2 protein in neuroglioma cells

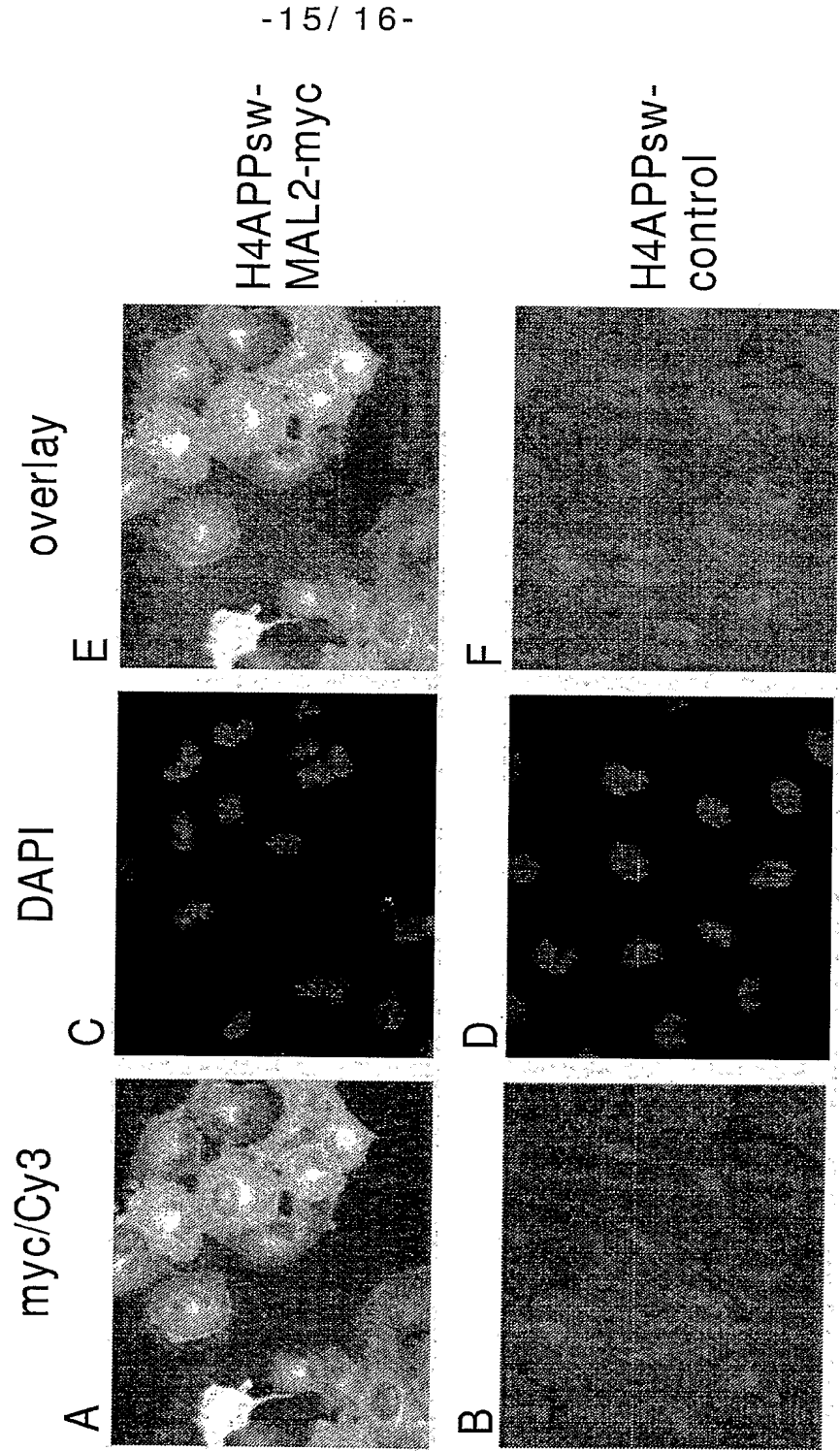


Fig. 15: Images of human pre-central brain sections labeled with anti-MAL2 antibodies and with DAPI

